tissue. Furthermore, the crowns of previous staples, owing to their narrower configurations, may cut through the underlying tissue. Staple **1465**, owing to the larger configuration of crown **1471**, may reduce, or even eliminate, this possibility. In an alternative embodiment, referring to FIG. **173**, staple assembly **1479** can include several of the "J" deformable members of staple **1400** (FIGS. **122** and **123**).

To further improve the stability of staples **1465**, two adjacent staples **1465**, for example, may be connected together by bridge **1473**. More specifically, referring to FIGS. **168** and **169**, the base **1468**, and crown **1471**, of the first staple may be laterally disposed in one direction and the base **1468**, and crown **1471**, of the second staple may be laterally disposed in the opposite direction. These oppositely disposed features may improve the stability of the staples by providing stabilizing surfaces on opposite sides of the assembly. The two staples, referring to FIG. **172**, may be deployed from staple cartridge **1475** by cam sled **1474** at the same time. To facilitate the deployment of the staples, staple cartridge **1475** may include, similar to the above, slots **1476** sized and configured for receiving keys **1477** extending from crowns **1471** of staples **1465**. More particularly, keys **1477** and slots **1476** can be configured to limit the movement of staples **1465** with respect to staple cartridge **1475** to a substantially linear upward motion. In addition, similar to the above, each bridge **1473** can include an integral driver **1478** which is configured to co-operate with cam sled **1474**. In at least one embodiment, crowns **1471**, bridge **1473** and driver **1478** can be comprised of a dissolvable or bioabsorbable material.

As known in the art, staples can be deployed into tissue such that staples are aligned in a row. However, in the past, staples configured in diagonal patterns have been disincentivized owing to potential leak paths between the staples. The staples of the present invention can overcome these previous problems. Referring to FIGS. **174** and **175**, staples **1480** each include two deformable members **1481** extending from a crown **1482** and bridge **1483** connecting crowns **1482**. When staples **1480** are inserted into tissue, as described above, the tissue is compressed between crowns **1482** and deformable members **1481**. However, in the embodiments in which bridges **1483** are inserted into the body along with staples **1480**, bridges **1483** can also compress the tissue and close off any leak paths therebetween. Referring to FIG. **175**, staple cartridge **1484** includes recesses **1485** therein which are configured to receive staples **1480** in a diagonal pattern such that staples **1480** can be deployed into the tissue as described above.

In an alternative embodiment, a portion of the staple cartridge can be broken away therefrom during the deployment of the staple. This portion can be configured to be positioned intermediate the base of the staple and the tissue captured within the staple. More particularly, referring to FIGS. **176-178**, a surgical stapling system can include staple cartridge **1486** having staple pads **1487** integrally molded into deck **1488** of staple cartridge **1486**. Staple cartridge **1486** can include score marks **1489** and slots **1490** surrounding staple pads **1487** such that staple pads **1487** can be easily separated from deck **1488**. More particularly, referring to FIG. **178**, the stapling system can include drivers **1491** having shears **1492** which are configured to press against staple pads **1487** when base **1493** is brought in close proximity to staple saddle **1494** and "punch-out" staple pads **1487**. In at least one embodiment, after they have been punched out, the staple pads can be positioned intermediate base **1493** and the tissue captured within the staple. As a result, staple pads **1487** can be configured to act as the crown of the staple or, in alternative embodiments, act as a buttressing member intermediate the staple and the tissue. In at least one embodiment, similar to the above, staple pads **1487** can be comprised of a bioabsorbable material.

The staples described above can be used in various surgical techniques. For example, one surgical technique can include a method of transecting tissue or a hollow organ by positioning a surgical stapling system adjacent tissues to be transected, the surgical stapling system including at least one of the staples described above, actuating the surgical stapling system to compress the tissues together, actuating the surgical stapling system to fasten and divide the tissue with said staple, and removing the surgical stapling system from the operative site. In at least one embodiment, the surgical technique can include the anastomosis of two hollow organs and/or the fixation of at least two tissues.

What is claimed is:

1. A surgical instrument assembly, comprising:

an end effector, comprising:

a first jaw; and

a second jaw movable relative to said first jaw, wherein said second jaw is movable between an open position and a clamped position to clamp tissue between said first jaw and said second jaw; and

a firing system, comprising:

a first jaw engaging portion configured to engage said first jaw; and

an adjustable second jaw engaging portion configured to engage said second jaw, wherein said adjustable second jaw engaging portion is movable relative to said first jaw engaging portion, and wherein said adjustable second jaw engaging portion adjusts its position relative to said first jaw engaging portion in response to the thickness of the tissue clamped between said first jaw and said second jaw to accommodate:

a first distance between said first jaw engaging portion and said adjustable second jaw engaging portion when said second jaw is in said clamped position; and

a second distance between said first jaw engaging portion and said adjustable second jaw engaging portion when said second jaw is in said clamped position, wherein said first distance is different than said second distance.

2. The surgical instrument assembly of claim **1**, wherein said first jaw engaging portion comprises a first projection, and wherein said adjustable second jaw engaging portion comprises a second projection.

3. The surgical instrument assembly of claim **2**, wherein said adjustable second jaw engaging portion is configured to position said second jaw relative to said first jaw, wherein said first jaw comprises a first jaw contacting surface and said second jaw comprises a second jaw positioning surface, wherein said first projection is configured to slidably engage said first jaw contacting surface, and wherein said second projection is configured to slidably engage said second jaw positioning surface.

4. The surgical instrument assembly of claim **1**, wherein the position of said adjustable second jaw engaging portion relative to said first jaw engaging portion is dynamically responsive to compressive loads applied to said second jaw.

5. The surgical instrument assembly of claim **1**, further comprising a slit defined between said first jaw engaging portion and said adjustable second jaw engaging portion.

6. The surgical instrument assembly of claim **1**, further comprising a staple cartridge removably positioned within said first jaw.

7. The surgical instrument assembly of claim **6**, wherein said firing system is configured to eject staples from said staple cartridge.

8. The surgical instrument assembly of claim **1**, wherein said second jaw comprises an anvil.

9. The surgical instrument assembly of claim **1**, wherein said firing system further comprises a tissue cutting portion.